

Temperature and Voltage Summary for LG Series Magnets

by Jim Garvey and Dave Hartness
24 August 1984

The following temperature and voltage measurements were done with a digital thermometer and a 6800 series DVM. The supply water temperature was measured once at the beginning of the measurement and once at the end. The return water from the magnet was measured every 60 seconds for 10 to 15 minutes. Magnet voltage drop was taken across the buss at magnet flags. The nominal current for the measurements was 1300 amps.

LQA001	$L = 1.66 \text{ mh}$ Water flow:	$Q = 3.16$ Top half = 3.7 gpm Bot half = 3.8 gpm	$R(T) = .00357$
Time	Supply Temp	Return Temp	E drop
11:25	82.8 deg F	84.3 deg F	4.800 v
11:26		85.6 deg	
11:27		86.3 deg	
11:28		88.1 deg	
11:29	83.4 deg	89.6 deg	4.822 v
11:30		90.9 deg	
11:31		92.7 deg	
11:32		94.5 deg	
11:33		95.5 deg	
11:25		96.4 deg	
11:34	86.2 deg	98.0 deg	4.855 v
11:35		98.9 deg	
11:36		99.2 deg	
11:37		99.8 deg	
11:38	87.4 deg F	99.5 deg F	4.868 v

LQB001

$L = 9.82 \text{ mh}$ $Q = 3.6$ $R(T) = .00730$
 Water flow: Top half = 3.0 gpm
 Bot half = 3.0 gpm

Time	Supply Temp	Return Temp	E drop
15:05	85.3 deg F	86.5 deg F	9.920 v
15:06		87.7 deg	
15:07		88.0 deg	
15:08		89.5 deg	
15:09		90.8 deg	10.062 v
15:10	85.6 deg	92.3 deg	
15:11		93.9 deg	
15:12		95.3 deg	
15:13		96.8 deg	
15:14	86.7 deg	98.2 deg	10.092 v
15:15		99.2 deg	
15:16		99.7 deg	
15:17		100.0 deg	
15:18	88.5 deg	100.9 deg	10.124 v

LQC001

$L = 11.86 \text{ mh}$ $Q = 3.80$ $R(T) = .00805$
 Water flow: Top half = 3.0 gpm
 Bot half = 2.7 gpm

Time	Supply Temp	Return Temp	E drop
18:01	81 deg F	83 deg F	
18:02		88 deg	10.88 v
18:03		90 deg	
18:04		92 deg	
18:05		92 deg	
18:06	85 deg F	92 deg	11.02 v
18:07		93 deg	
18:08		93 deg	
18:09		94 deg	
18:10	88 deg F	96 deg	11.44 v

LGDOO1

$L = 13.1 \text{ mh}$ $Q = 3.80$ $R(T) = .00863$
 Water flow: Top half = 2.9 gpm
 Bot half = 2.9 gpm

Time	Supply Temp	Return Temp	E drop
20:00	83 deg F	86 deg F	11.486 v
20:01		86 deg	
20:02		88 deg	
20:03		90 deg	
20:04		91 deg	
20:05		92 deg	
20:06		93 deg	
20:07		94 deg	11.797 v
20:08		96 deg	
20:09		97 deg	
20:10		98 deg	
20:11		98 deg	
20:12		99 deg	
20:13		99 deg	
20:14	91 deg F	99 deg F	11.830 v

LGE002

$L = 11.8 \text{ mh}$ $Q = 3.4$ $R(T) = .00791$
 Water flow: Top half = 2.9 gpm
 Bot half = 3.3 gpm

Time	Supply Temp	Return Temp	E drop
09:25	82.5 deg F	82.6 deg F	12.879 v
09:26		83.6 deg	
09:27		84.8 deg	
09:28		87.2 deg	
09:29		88.2 deg	
09:30		90.9 deg	
09:31	83.4 deg	91.4 deg	
09:32		93.3 deg	
09:33		95.1 deg	
09:34		95.5 deg	
09:35		96.5 deg	
09:36		96.3 deg	
09:37		96.7 deg	
09:38		96.8 deg	
09:39	86.9 deg F	96.2 deg F	13.000 v